

In re Patent Application of  
**STEVENSON**  
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23. A method of manufacturing an image sensor device comprising a substrate, an image sensor chip mounted on the substrate and having a top surface, an optical element formed on the top surface of the image sensor chip, a dam wall formed on the substrate surrounding the periphery of the image sensor chip and having an upper edge, and a transparent lid affixed to the upper edge of the dam wall and encapsulating the image sensor chip, the method comprising:

forming a barrier on the top surface of the image sensor chip surrounding the optical element between the optical element and the dam wall.

24. The method of Claim 23 wherein forming the barrier comprises forming the barrier at least three microns high.

25. The method of Claim 23 wherein forming the barrier comprises forming the barrier during fabrication of the image sensor chip.

26. The method of Claim 23 wherein the image sensor device further comprises a mosaic overlying the optical element comprising at least one color filter material; and wherein forming the barrier comprises forming the barrier from the at least one color filter material during fabrication of the mosaic.

27. The method of Claim 26 wherein the at least one color filter material comprises a plurality of color filter

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materials; and wherein forming the barrier comprises forming a plurality of layers on top of one another from the plurality of color filter materials.

28. An image sensor chip comprising:  
an image sensor array formed on a top surface of the image sensor chip;

a barrier on the top surface of the image sensor chip extending along at least a substantial part of at least one side of said image sensor array.

29. The image sensor chip of Claim 28 wherein said barrier is at least three microns high.

30. The image sensor chip of Claim 28 wherein said barrier surrounds said image sensor array.

31. The image sensor chip of Claim 28 further comprising a mosaic overlying said image sensor array comprising at least one color filter material; and wherein said barrier comprises the at least one color filter material.

32. The image sensor chip of Claim 31 wherein the at least one color filter material comprises a plurality of color filter materials; and wherein said barrier comprises a plurality of layers each comprising at least one of the plurality of color filter materials.

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33. An image sensor device comprising:  
a substrate;  
an image sensor chip mounted on said substrate and  
having a top surface;  
an image sensor array formed on the top surface of  
said image sensor chip;  
a dam wall formed on said substrate surrounding a  
periphery of said image sensor chip and having an upper edge;  
a transparent lid affixed to the upper edge of said  
dam wall and encapsulating said image sensor chip; and  
a barrier on the top surface of said image sensor  
chip extending along at least a substantial part of at least  
one side of said image sensor array between said image sensor  
array and said dam wall.

34. The image sensor device of Claim 33 wherein  
said barrier is at least three microns high.

35. The image sensor device of Claim 33 wherein  
said barrier surrounds said image sensor array.

36. The image sensor device of Claim 33 wherein  
said image sensor device further comprises a mosaic overlying  
said image sensor array comprising at least one color filter  
material; and wherein said barrier comprises the at least one  
color filter material.

37. The image sensor device of Claim 36 wherein the  
at least one color filter material comprises a plurality of

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color filter materials; and wherein said barrier comprises a plurality of layers each comprising at least one of the plurality of color filter materials.

38. An image sensor device comprising:

a substrate;

an image sensor chip mounted on said substrate and having a top surface;

an optical element formed on the top surface of said image sensor chip;

a dam wall formed on said substrate surrounding a periphery of said image sensor chip and having an upper edge;

a transparent lid affixed to the upper edge of said dam wall and encapsulating said image sensor chip; and

a barrier on the top surface of said image sensor chip surrounding said optical element between said optical element and said dam wall.

39. The image sensor device of Claim 38 wherein said barrier is at least three microns high.

40. The image sensor device of Claim 38 wherein said image sensor device further comprises a mosaic overlying said optical element comprising at least one color filter material; and wherein said barrier comprises the at least one color filter material.

41. The image sensor device of Claim 40 wherein the at least one color filter material comprises a plurality of